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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/667,666	09/23/2003	Wen-Chang Chen	CHEN3587 / EM	9104

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EXAMINER

ZIMMER, MARC S

ART UNIT	PAPER NUMBER
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1712

DATE MAILED: 04/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/667,666

Applicant(s)

CHEN ET AL.

Examiner

Marc S. Zimmer

Art Unit

1712

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 February 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-7 is/are allowed.
- 6) ☒ Claim(s) 8-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 8-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kurosawa et al., U.S. patent # 6,011,123 for the reasons made of record in the correspondence dated November 16, 2004.

Response to Arguments

Applicant disputes the validity of the rejection over Kurosawa on the grounds that (i) Kurosawa does not disclose the preparation of a polysilsesquioxane in advance, (ii) the reference is silent concerning the use of an aminosilane coupling agent, and (iii) the present invention does not require the employment of a chelate catalyst as is mandated by the invention taught by reference.

Concerning the first point, Applicant is correct that the formation of a polysilsesquioxane as a reactant to be chemically combined with polyamic acid is not disclosed. Kurosawa only mentions preparing a partial condensate derived from organosilanes and partial condensates are not structurally equivalent to silsesquioxanes. On the other hand, it is notable that the method of claim 8 stipulates only that the silane-derivatized polyamic acid is coupled with a "silicon alkoxide" (tetramethoxysilane, tetraethoxysilane, and the like according to page 10 of the Specification). As was pointed out previously, Kurosawa contemplates an embodiment

Art Unit: 1712

where the partial condensate is prepared in situ, i.e. in the presence of silane-derivatized polyamic acid hence claims 8-13 are still rendered obvious.

As for (ii), amino-functional silanes are, in fact, described as silylating compounds for preparing the corresponding derivatized polyamic acid in column 12, lines 39-41.

Concerning the third point, the fact that the instantly claimed invention does not expressly disclose a metal chelate as an ingredient is immaterial as it is open to other components in view of the transitional phrase "comprising".

As an aside, it is interesting that Applicant has summarized the contents of Comparative Example 3 from JP 4-189866 insofar as the Examiner had already made the determination that the teachings of this reference were not germane to the instant invention. (This determination was based on the contents of the abstract. Comparative example 3, on the other hand, teaches a method that does not adhere to what is considered to be Aoki's invention.) In this connection, Applicant states

"in Comparative Example 3, the polyamic acid solution is first reacted with amino coupling agent and then reacted with organosilsesquioxane, which results in aggregation in the solution and thus cannot form into a film. It means that in the JP patent, the organosilsesquioxane should be first reacted and modified with the amino-based coupling agent."

However, reacting polyamic acid with an amino-functionalized coupling agent and then reacting with an organosilsesquioxane is precisely what Applicant is claiming. Indeed,

Art Unit: 1712

Aoki teaches a method that mirrors the instant claims more closely than was previously thought to be the case. That being said, Aoki is deficient at least for the reasons that the silsesquioxane polymer is prepared in an ammonia water solution instead of acid and it is not clear that deionized water is used in the subsequent hydrolysis step.

Applicant has said that the method of the comparative example will not produce a product capable of forming a film. It can only be presumed that this statement was made in error because, in that case, Applicant's own invention would, likewise, not result in the preparation of a film-forming solution.

Allowable Subject Matter

Claims 1-7 are now considered allowable given that Kurosawa does not teach reacting silane-functionalized polyamic acid with a polysilsesquioxane.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.


Art Unit: 1712

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marc S. Zimmer whose telephone number is 571-272-1096. The examiner can normally be reached on Monday-Friday 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on 571-272-1302. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

March 31, 2005



MARGARET G. MOORE
PRIMARY PATENT EXAMINER
ART UNIT 1712